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"The Saccharine Disease," by T.L. Cleave and G.D. Campbell, "Character of Poisoning Changes," and "Testing Food Additives"

The following is a transcription of the July 1967 issue of Dr. Royal Lee's *Applied Trophology* newsletter, originally published by Standard Process Laboratories.

(***Editor's note****: The following article was originally published in two parts in the June and July 1967 issues of the Applied Trophology newsletter. For your convenience, we are presenting it in its entirety in here.)*

The Saccharine Disease

by Surg. Captain Cleave, MRCP (London), RN, and Dr. Campbell, MB, FRCP (Edin.) physician to the Diabetic Clinic, King Edward VIII Hospital, Durban, coauthors of *Diabetes, Coronary Thrombosis and the Saccharine Disease*, published by John Wright and Sons, Ltd.

The above title covers the conception of a single basic disease, with various systemic manifestations, produced entirely by the consumption of refined carbohydrates, notably sugar, and white flour—which in the body is digested to and absorbed as sugar (as regards its carbohydrate content). The English word "saccharine," meaning related to sugar, is pronounced like the river Rhine, which sharply distinguishes it from the word for the chemical sweetener. The Saccharine Disease includes diabetes, obesity, coronary thrombosis, and certain infections with the *Bacillus coli,* together with dental caries, varicose veins, and peptic ulcer. This essentially simple conception is based on both evolutionary and epidemiological evidence, which we have martialed in our joint work and of which we are able to present here only a few details.

This conception the human body, after 3,000 million years of evolutionary adaptation to its environment, is regarded as correctly constructed, and its breakdown in the above conditions as due to exposing it to a new environmental factor to which it cannot yet possibly be adapted. In short, in this condition, the body is regarded as "Built rightly but being used wrongly."

It is true that an exception to the body being built correctly exists in the case of hereditary defects, such as harelip and clubfoot, but even under the protection of modern civilization the frequency of any such defect never exceeds the figure of 5 per 1,000 births—a frequency some 20 times smaller than occurs in many of the conditions enumerated above. This crucial difference in frequency demonstrates the weakness in ascribing such conditions to hereditary defects, a weakness that is clinched by the very recent appearance of these conditions in the time-scale and by their rarity in races still living under primitive conditions, as we intend to show.

At this point we must consider the totally different question of personal build. For a man's personal build, even though an absolutely healthy one, may render him highly vulnerable to a new environmental factor. In our work we cite the case of tall men, though perfectly healthy, being in war especially vulnerable to machine gun fire; and similar variations in personal build, *which involve every organ of the body,* readily explain why certain persons suffer from a disease produced by a new environmental factor, whereas other persons do not. And it is easy to see the fundamental difference between a disease produced in this way and one based on hereditary defect. The distinction is not only highly important but of great practical value, because in the personal-build case the basic external cause of the disease can be removed at once, whereas in the bodily defect case the cause can never be removed, though it may be remedied.

It is also seen how deceptive hereditary features in disease can be, since normally these concern a vulnerable personal build and *not* a bodily defect. Such hereditary features may therefore be virtually disregarded and attention directed to removal of the cause, in the shape of the unnatural environmental factor responsible. At the present time, in our opinion, much time and energy are being expended in the disease conditions set out above in pursuing hereditary characteristics, which are nothing less than a snare and a delusion. Let us, instead, regard the body as built rightly but being used wrongly, and aim at removing the relevant cause.

Against this most essential background we now present in outline the new environmental factor constituted by the refining of flour and sugar, and the following chart summarizes the position as regards sugar.

[Chart in original document, with caption:] The rise in sugar consumption in the United Kingdome over the last century and a half.
It will be seen in the round that the 15 lbs. of sugar consumed per head per year in 1815, jumped in only 150 years to the 8-fold figure of 120 lbs. in 1965. The latter figure equals a daily consumption of 5 oz. per person—which is the amount of sugar contained in some 2¼ lbs. of sugar beet. And it is precisely this unnatural concentration in the sugar, through 2½ lbs. of sugar beet giving place to 5 oz. of crystalline sugar, that exemplified the new environmental factor we have been discussing, which in this case deceives the tongue and leads to startling increases in consumption. For who on the same diet could replace his sugar intake by 2½ lbs. of sugar beet?

Turning now to the case of flour, we we may say that in the refining of wheat, which dates on a massive scale from only about 200 years ago, approximately a third of the grain is stripped off and discarded—and this third is the one that contains much of the protein and nearly all of the fiber, the importance of which will be seen later. The concentration produced is much less than in the case of sugar, but nevertheless is again easily revealed in the eating. Since the starch in flour is digested to, and absorbed as, sugar, the disease conditions caused by the refinement of wheat will largely resemble those caused by the refinement of sugar, and we shall not here specially distinguish the two. Such conditions will be grouped under two headings.

1. Conditions produced by over-consumption

Diabetes. In this condition the pancreas is subjected to such acute strains by short, massive consumptions of sugar that it is no longer able to manufacture the necessary insulin. As a result, the sugar absorbed cannot be utilized and is excreted in the urine, and unless the patient is given other insulin he dies. In our work we show how the rise in the frequency of diabetes in Westernized countries follows the rise in sugar consumption already charted. Thus, from being 27th in the list of causes of death in the statistics of the Metropolitan Life Assurance Company in 1900, it became third by 1950. In the "rule of 20 years" established by one of us (GDC) in racial studies, we show that it takes on the average 20 years' exposure to refined carbohydrates to produce diabetes, but even wartime sugar rationing immediately affected the actual death rate from the disease.

However, the most impressive evidence of all is provided by racial studies, which show a worldwide relationship between the frequency of diabetes and the consumption of refined carbohydrates. A striking example concerns the 400,000 Indians that have come to South Africa from India. Prolonged studies by one of us (GDC) in 1959, involving thousands of these Natal Indians, have shown that the frequency of the disease in these people has risen to as high as any in any significantly large racial group in the world, and one which we estimate as ten times as high as in the Indians in India itself. And it is deeply significant that the consumption of sugar in these people are nearly ten times as high as in India, too

Other racial studies in Africa point to the same conclusions, for diabetes is almost unknown amongst the Africans living tribally in the Native Reserves, where the basic food is unrefined maize and where, until recently, the consumption of sugar has been minimal; whereas amongst the Africans living in the large towns, and consuming large quantities of refined carbohydrates, the frequency of the disease is rapidly approaching that in the whites—which it has already reached in their cousins, the negroes in the United States.

But we must also emphasize that in Africans working in the sugarcane plantations and eating large quantities of *un*refined sugar, in the form of sugarcane, our studies have shown that the disease is almost completely absent, as indeed was commented on by Banting, co-discoverer of insulin, in studying similar workers in Panama 40 years before. This leads to our other great tenet—that unrefined carbohydrates are normally as safe as refined ones are dangerous, which points to the substitution of the one for the other as the best means of prevention and arrest in all the conditions now being studied.

But in this connection, we must distinguish prevention and arrest from the medical and surgical treatment of damage already inflicted. If a man has established diabetes, no less than if he has a decayed tooth, he will need more than the removal of the cause of further damage.

Obesity. In this condition we positively exclude the appetite from ever being at fault, which would mean the body was built wrongly. We are certain that as long as the food has not been concentrated and the Longue deceived, mankind no more eats too much than does any other living organism. We likewise reject the idea that obesity is ever due to people being lazy and not exercising themselves more, since this again would mean their instincts were at fault and the body was built wrongly. Even if people were not allowed to exercise themselves (which is not the case), there is no reason to suppose that, if their food remained unconcentrated, they would any more develop obesity than do the naturally fed animals, birds and fishes in a zoo, who laze all day long. Not a word of this, of course, precludes starvation and exercise from being used for the treatment of existing obesity, as long as the basic cause is removed—the consumption of refined carbohydrates.

In our work we quote racial studies contrasting the complete absence of obesity in tribal Africans, living on unrefined carbohydrates, with its prominence in urbanized Africans living on refined ones. Today in the Westernized nations we see obesity even in the schoolchildren.

Coronary thrombosis. We cannot refer here to the evidence for including coronary thrombosis in the saccharine disease, except to point out the extremely close association of this condition with diabetes, in which coronary trouble is seldom absent, and also how racial studies, including those in Natal, reveal the emergence of the one condition as accompanied by the emergence of the other.

We reject any association between coronary thrombosis and fat consumption. On the one hand, no fat consumed today is more concentrated than the pure fat present in meat, and therefore there is no reason why the tongue should not be able to regulate the consumption as correctly as it has always done, both for the Jack Sprats and their opposites. And on the other hand, to maintain that the "saturated" animal fats, such as occur in roast beef, are bad for us, whereas the "unsaturated" vegetable oils, such as occur in sunflower seeds, are good for us, would make us, evolutionarily, not men but something akin to a flock of greenfinches. It is not surprising that recent studies in the United States have shown no important alterations in fat consumption over the years to account for the great increase in coronary thrombosis, or that treatment studies of the disease in this country have shown no advantage in substituting unnatural fats for natural ones, as described above.

Bacillus coli infections: appendicitis, cholecystitis, diverticulitis, and pyelitis. The overconsumption of refined carbohydrates also has important effects on the intestinal bacterial picture, since it leads to the presence of large numbers of organisms that otherwise would have no means of support. The organisms concerned are especially those that attack sugar, such as B. coli. When this organism is sufficiently numerous it can attack the intestinal wall itself, especially in backwaters such as the appendix, gallbladder, and diverticula in the large gut. After then passing into the bloodstream the organism can likewise cause pyelitis during its excretion by the kidney.

Standard textbooks allude to the increasing rarity of these infections, such as appendicitis, before the year 1900 (which is when the consumption of sugar first reached about 100 lbs. per head per year) and to their absence in primitive peoples. Our studies support this. For example, at the Charles Johnson Memorial Hospital in Natal, serving mostly tribal Africans living on unrefined maize, not only are appendicitis and cholecystitis rare, but no case of diverticulitis has ever been seen. By contrast, diverticulitis in U.S. negroes is now as common as in the whites.

We are confident that the basic approach to all these infections should lie in starving out the organisms concerned, through avoiding the refined carbohydrates responsible for their presence.

2. Conditions produced by the removal of fiber protein in the refining processes.

Dental caries and paradental disease (pyorrhea). The loss of the cleaning power present in the fiber of natural carbohydrates is too well known as the cause of dental decay to need any pursuit here; less well known is the fact that the loss of this fiber, through the ensuing lack of friction on the gums, during the eating of the pappy refined end products, is also the cause of pyorrhea which, as a recent leader of the *British Medical Journal* reiterates, causes as many teeth to be lost as does dental decay itself, though at a rather later age. It is this consideration, and that wider one based on all the conditions now being discussed, that makes any antidoting of the cause of dental decay by fluoridation, as opposed to the removal of that cause by a limited alteration in the diet, savior of a blind alley occupation.

Constipation, varicose veins, and hemorrhoids. The constipation that results from the removal of fiber at present under discussion, and which has turned approximately half the population into aperient-takers of varying degrees of chronicity, may have important repercussions on the return of the blood from the lower limbs, since the terminal portions of the gut lie directly on the great venous trunks bringing up blood from this area, especially on the left side, and any accumulation in this part of the gut may therefore cause distention and varicosities in the leg veins concerned—and it is noteworthy that venous complaints in the leg predominates on the left side.

In our work we show how varicose veins are absent, even during pregnancy, in Africans living tribally on unrefined maize, which produces two soft stools a day; whereas in urbanized Africans, living on refined products, are becoming common (and, indeed, in their cousins, the negroes in the United States, varicose veins are now as common as in the whites). We quote figures published by H. Dodd, after returning from the Charles Johnson Memorial Hospital, which show that in the previous three years, out of a total of over 11,000 inpatients (including over 3,000 maternity cases) and over 100,000 outpatient attendances, there were three instances of varicose veins. In England, where varicose veins form the commonest surgical complaint, about 10 percent of the population are afflicted with them.

As regards that other extremely common complaint, hemorrhoids ("piles"), these are produced in exactly the same way as are varicose veins, except that here the fecal accumulations press on the veins in the wall of the gut, near its terminal outlet, especially during straining at stool. Racial studies show results exactly paralleling those set out above.

The immediate relief of the causative constipation by the taking of unprocessed wheat bran is set out on the food guide already alluded to.

Peptic ulcer. Accompanying the removal of fiber in the refining of carbohydrates is an equally serious removal of protein. Since protein is the only food material that neutralizes the hydrochloric acid of the stomach, this removal can result in the unnaturalized acid digesting the stomach itself, with production of a gastric or duodenal ulcer. It accords perfectly with our conception that duodenal ulcer at least, which is now so common, was not seen before the year 1900, and also that global studies reveal a striking geographical correlation between the refining of carbohydrates and the occurrence of these ulcers.

In the ulcer belt of India, the refining of rice and manioc (tapioca), in which some protein remains, results in duodenal ulcers of great chronicity, whereas in westernized countries the refining of wheat is accompanied by much refining of sugar, in which latter *all* the protein is removed, which results in ulcers also of the acute perforating type. It is noteworthy that in the Natal Indians the ulcers change from the first type to the second. We also show that in the Japanese prisoner of war camps peptic ulcers were either rampant or absent, depending on whether the rice was refined or unrefined.

Complementary to the above are other studies showing the rarity of peptic ulcer where carbohydrates are eaten unrefined. For example, in the Charles Johnson Memorial Hospital there were, amongst 25,000 inpatients during 1950–60, only two cases of peptic ulcer. But in the United States the disease is equally common in the negroes and the whites. We also quote two papers by Professor H. Glatzel showing a remarkable disappearance of peptic ulcer amongst the German army at Stalingrad, where the troops were forced to eat raw turnips and raw potatoes.

It is clear that we cannot accept "stress" as ever a primary cause of peptic ulcer, though it may aggravate that cause if it leads to people eating when they are not hungry. For in our food guide, if the second golden rule is to substitute fruit for sugar and whole-meal flour for white, the first golden rule is to eat nothing at all unless one is hungry for it.

—From *Mother Earth: The Journal of the Soil Association,* Vol. 14, No. 5, January 1967.

Character of Poisoning Changes

University of Miami researcher Dr. Joseph H. Davis advises there has been a decrease in gas poisoning, but newer medicines and tranquilizers are gaining ground. He reports in the May 1967 issue of *Industrial Medicine and Surgery* that medications, carbon monoxide, alcohols, and pesticides kill more children than most other poisons at this time. He advised that pesticides now play a larger role in poisonings than medicine.

In the May 26, 1967, issue of *Medical World News* we find further verification of pesticide damage. Dr. David R. Metcalf, an assistant professor of Psychiatry at the University of Colorado, reports that continuous exposure to insect sprays may fog the brain, cloud thinking processes, slow reaction times, dim memories, cause loss of pep, and produce irritability. He said those most often affected are greenhouse workers and farmers.

For additional information on food additives, chemical fertilizers, pesticides and insecticide residues we suggest you review our article entitled "Food Chemicals Criticized" in the May 1966 issue of *Applied Trophology.*

Testing Food Additives

According to a recent report released by the World Health Organization (WHO), the testing of food additives in animals only is not sufficient. They urge that additives should also be tested in man before being used in marketable foods consumed by the general public.

In Technical Report Series No. 348, WHO suggested further studies on toxicological procedures used for the evaluation of such food additives. Also emphasized is the need for further study into the interrelationships between these food additives and other chemicals in the immediate human environment. The report states, "Information on this matter is important since the toxicity of a food additive may be enhanced or diminished by other chemicals in the environment." It was further suggested that efforts should be made to identify possible mutagenic and teratogenic hazards of food additives.

> *Whenever anything is added to or removed from food as nature provides it, you may be assured that the life-giving balance is impaired and our bodies suffer accordingly.*
>
> *—Verne Thomas*

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